

REMIZOV, Konstantin Sergeyevich.

[Conversion to the short workday is one of the most important tasks of the seven-year plan] Perevod na sokrashchennyi rabochii den', odna iz vazhneishikh zadach semiletki. Moskva, 1960. 41 p. (MIRA 14:5)

(Hours of labor)

REMIZOV, Konstantin Sergeyevich, kand.ekonom.nauk; LEONT'YEV, L.A., red.;  
GRINGAUZ, S., red.; YAKOVLEVA, Ye., tekhn.red.

[Organization of wages in the U.S.S.R.] Organizatsiia oplaty truda  
rabochikh v SSSR. Pod obshchei red. L.A.Leont'eva. Moskva, Mosk.  
rabochii, 1960. 46 p. (MIRA 13:8)

1. Chlen-korrespondent Akademii nauk SSSR (for Leont'yev).  
(Wages)

REMIZOV, Konstantin Sergeyevich, kand. ekonom. nauk; DUBROVSKIY, Yu.N.,  
red.; NAZAROVA, A.S., tekhn. red.

[Work organization in an industrial enterprise] Organizatsiia truda  
na promyshlennom predpriatii. Moskva, Izd-vo Znanie, 1961. 39 p.  
(Vsesoiuznoye obshchestvo po rasprostraneniuiu politicheskikh i  
nauchnykh znani. Ser.3, Ekonomika, no.16) (MIRA 14:11)  
(Industrial management)

KUDRYAVTSEV, A.S., prof., doktor ekonom. nauk, zasl. deyatel' nauki i tekhniki RSFSR; LYASNIKOV, I.A., dots.; KOSTIN, L.A., dots.; PUNSKIY, Ya.M., prof.; PETROCHENKO, P.F., kand. ekonom. nauk; GUR'YANOV, S.Kh., dots.; KURKIN, N.I., st. prepodavatel'; KOTOV, F.I., dots.; REMIZOV, K.S., kand. ekonom. nauk; POLYAKOV, I.A., starshiy prepodavatel'; BEZRUKOV, B.W., retsenzent; KOPYLOVA, L.P., red.; ANDREYEVA, L.S., tekhn. red.

[Labor economics in the U.S.S.R.] Ekonomika truda v SSSR. 2., perer. izd. Moskva, Izd-vo VTsSPS Profizdat, 1961. 623 p. (MIRA 15:2)

(Labor and laboring classes)

GUR'YANOV, Sergey Khristanovich; POLYAKOV, Ivan Avdeyevich; ~~REMIZOV,~~  
~~Konstantin Sergeyevich;~~ VORONOV, V.V., red.; PETRUSHEV, I.M.,  
red.; PONOMAREVA, A.A., tekhn. red.

[Labor economist's reference book; method for calculating the  
economics of labor in an industrial enterprise] Spravochnik  
ekonomista po trudu; metodika raschetov po ekonomike truda na  
promyshlennom predpriatii. Moskva, Izd-vo ekon. lit-ry,  
1962. 285 p. (MIRA 15:3)

(Labor and laboring classes)  
(Industrial management)

GUR'YANOV, Sergey Khristanovich; POLYAKOV, Ivan Avdeyevich; REMIZOV, Konstantin Sergeyevich; PETRUSHEV, I.M., red.; PONOMAREVA, A.A., tekhn. red.

[Labor economist's manual; method for planning labor economics in an industrial enterprise] Spravochnik ekonomista po trudu; metodika raschetov po ekonomike truda na promyshlennom predpriyatii. Izd.2., ispr. i dop. Moskva, Ekonomizdat, 1963. 295 p. (MIRA 16:8)

(Labor economics)

REMIZOV, Konstantin Sergeyevich, kand. ekon. nauk; TUBOL'TSEV, M.,  
red.; SHLYA, M., tekhn. red.

[Procedure for establishing work norms] Poriadok normirovaniia  
truda. Moskva, Mosk. rabochii, 1962. 46 p. (MIRA 16:1)  
(Production standards)

REMIZOV, L. T.

А. Н. Канев

Изучение нелинейных свойств полупроводникового триода, обусловленные эффектами модуляции тока базы

#### А СЕКЦИЯ ПРИЕМНЫХ УСТРОЙСТВ

Руководитель Н. Н. Чистов

12 июня

(с 10 до 16 часов)

М. Г. Газунов,

Л. Г. Ренков,

М. С. Тарханов

Принципы устройства для измерения статистических характеристик сигнала при трансформации спектра в нелинейных элементах

Ю. Н. Бабанов

Использование фазовых преобразователей сигнала для повышения помехоустойчивости систем связи

В. В. Рогинин

Метод определения параметров кристаллического детектора в сантиметровом диапазоне

12 июня

(с 10 до 22 часов)

18

В. П. Шамин

О принципах построения нелинейных многокаскадных усилителей

Н. А. Суров,

А. Н. Смирнов

Влияние временных изменений динамических свойств на характеристики усилителя с корректующей связью в цепи катода и с параллельной индуктивной коррекцией в анодной цепи

М. Н. Пустынский

Коррекция остаточной фазы сигнала в многокаскадных нелинейных усилителях

Б. Н. Савицкий

Об использовании нелинейных элементов в усилителях СВЧ

Г. Н. Листов,

О. Н. Востриков

Методы автоматической регуляции полосы пропускания многокаскадных нелинейных фильтров

#### А СЕКЦИЯ ПРОВОДНОЙ СВЯЗИ

Руководитель М. Н. Грачев

9 июня

(с 10 до 16 часов)

19

Report submitted for the Centennial Meeting of the Scientific Technological Society of  
Radio Engineering and Electrical Communications in A. S. Paper (VNIIE), Moscow,  
8-12 June, 1959



SOV/109--4-3-30/38

AUTHOR: Remizov, L.T.

TITLE: Probability Density of the Derivative of the Phase of a Sum of Sinusoidal Signal and Gaussian Noise (Plotnost' veroyatnosti proizvodnoy fazy summy sinusoidal'nogo signala i gaussova shuma)

PERIODICAL: Radiotekhnika i Elektronika, 1959, Vol 4, Nr 3, pp 540-541 (USSR)

ABSTRACT: The probability density distribution of the phase derivative of a random process consisting of a sinusoidal oscillation and fluctuation process is of interest in the evaluation of the efficiency of various frequency-sensitive devices. The probability density can be evaluated from the four-dimensional probability density function derived by Bunimovich (Ref 1) which is defined by Eq (1) where  $E$  represents the envelope and  $\Phi$  is the phase of a sinusoidal signal and Gaussian noise.  $U$  represents the Gaussian random process while  $E_0$  and  $W_0$  represent the amplitude and the frequency of the sinusoidal signal;  $\sigma^2$  is the average square value of the voltage. By integrating Eq (1) with respect to  $E$ ,  $\dot{E}$  and  $\Phi$  the phase derivative distribution is given by

Card 1/2

SOV/109- --4-3-30/38

Probability Density of the Derivative of the Phase of a Sum of Sinusoidal Signal and Gaussian Noise

Eq (2), where  $I_0$  and  $I_1$  are Bessel functions of the zero and first order, respectively. When  $q = 0$ , Eq (2) is in the form of Eq (3). The parameter  $q$  represents the signal-to-noise ratio. When  $q \gg 1$  the probability is given by Eq (4); on the other hand, for  $q \ll 1$  the probability is expressed by Eq (5). Eq (2) is plotted in the figure on page 541 as a function of  $y$  for various values of  $q$ .

Card 2/2 There are 1 figure and 3 Soviet references.

SUBMITTED: July 28, 1958

3113

S/109/60/005/07/003/024  
E140/E163

9.9000

AUTHORS: Remizov, L.T., Golubtsov, M.G., and  
~~Timofeyev, D.D.~~, (deceased).

TITLE: Receiving Equipment for the Measurement of Statistical  
Signal Characteristics with Tropospheric Propagation of  
Radio Waves

PERIODICAL: Radiotekhnika i elektronika, Vol 5, No 7, 1960,  
pp 1065-1071 (USSR) (+ 1 plate)

ABSTRACT: A brief description is given of a receiving equipment  
intended for the simultaneous recording of signal-level  
variations independently of a decimeter-band carrier and the two  
AM-sidebands for modulation frequencies 115, 346, 520, 1040, 2080  
and 5200 kcs. A complex system of mixers, frequency multipliers  
and dividers, filters, etc is employed, permitting frequency  
instabilities introduced by various factors to be cancelled out.  
The maximum permissible rate of frequency variation compensated by  
the system is 0.3 cps/sec. The tracking band of the AFC-system  
is 400 cps, the noise factor of the input circuits is equal to  
10-11 dB with sensitivity not poorer than 0.01  $\mu$ V. Examples of  
results obtained are given in Fig 9 for a test on the path  
Moscow-Vladimir, performed in September 1959.

Card 1/2

Slis:

S/109/60/005/07/003/024  
E140/E163

Receiving Equipment for the Measurement of Statistical Signal  
Characteristics with Tropospheric Propagation of Radio Waves

Acknowledgements are made to V.A. Kotel'nikov for his assistance  
in selecting the circuits of the receiving equipment, and also to  
A.M. Klestov-Nadeyev for his assistance in the laboratory testing  
of the instruments and to A.N. Lomakin for checking reception of  
signals.

There are 9 figures and 3 references, of which 2 are English and  
1 Soviet.

SUBMITTED: December 23, 1959

Card 2/2

✓

L 6977-66 EWP(k)/EWT(d)/EWP(h)/EWP(v)/EWP(1)

ACC NR: AP6001036

SOURCE CODE: UR/0380/65/000/002/0029/0034

AUTHOR: Zinov'yev, V. A. (Moscow); Remizov, M. P. (Moscow)

ORG: none

TITLE: Kinematic and dynamic analysis of an electric hoist with revolving primary and secondary

SOURCE: Mashinovedeniye, no. 2, 1965, 29-34

TOPIC TAGS: electric motor, hoisting equipment, electric rotating equipment part, mechanical engineering

ABSTRACT: The article is devoted to the theory of an electric hoist motor with the primary ('stator') and secondary (rotor) revolving in opposite directions. This scheme is proved to be preferable to the other variant where both the 'stator' and rotor revolve in the same direction. The advantages of opposite rotation become particularly significant when the given 'stator' speed is high, i.e. when the transmission ratio rotor-to-'stator' is small. In the specific arrangement considered here the hoist is driven by an induction motor whose stator is coupled to its rotor through a gear transmission and at the same time performs the function of a drum (authors' certificate No. 158059 by M. P. Remizov and I. M. Medvedev). The entire system has one degree of freedom and represents a differential and a kinematic link closing the loop. The angular motion is analyzed first: the rotor velocity

Card 1/2

UDC: 621.34.01.681

L 6977-66

ACC NR: AP6001036

$$w_R = (w_M + w_S)(1-s)$$

where  $w_M$  is the velocity of the magnetic field,  $w_S$  is the velocity of the 'stator' and  $s$  is the slip. The ratio between rotor velocity and 'stator' velocity is also fixed by the kinematic link between them. This ratio can be smaller than unity (accelerating mechanisms) or larger than unity (decelerating mechanisms). An analysis of energy losses shows that only a negative transmission ratio is of practical importance. Next, the torques are analyzed, the motor torque-slip characteristic being approximated by a quadratic equation

$$M = a + bs + cs^2$$

The rotor torque is also equal to  $M_R = \frac{M_S}{\eta_{RS}-1}$

where  $M_S$  is the load torque on the stator,  $\eta$  is the transmission efficiency and  $\eta_{RS} = w_R/w_S$ . Finally, the dynamic analysis is made considering the inertia and acceleration. A numerical example is provided to illustrate the calculations and the performance characteristics of this hoist system. Curves are plotted for slip vs. time (decreasing), speed vs. time (increasing) and torque vs. time (increasing from start to maximum and then decreasing). Orig. art. has: 2 figures 17 formulas. [JPRS]

SUB CODE: 09, 13 / SUBM DATE: 14Jan65

Card 2/2 *nds*

REMIZOV, M.S., kand. med. nauk

Shadow test in the examination of the field of vision.  
Vest. oft. 76 no.3:57-59 My-Je '63. (MIRA 17:2)

1. Kafedra glaznykh bolezney (zav. -- prof. S.M. Khayutin)  
Yaroslavskogo meditsinskogo instituta.

KHAIUTIN, S.M., prof.; REMIZOV, M.S., k.m.n.

Clinical picture and treatment of tuberculous diseases of the  
uveal tract. Khirurgiia 16 no.1:117-122 '63.

(TUBERCULOSIS OCULAR) (UREA)



REMIZOV, M. S.

Remizov, M. S. "The dynamics of diastolic pressure of the central artery of the retina in glaucoma patients." Gor'kiy State Medical Inst imeni S. M. Kirov. Gor'kiy, 1956. (Dissertation for the Degree of Candidate in Medical Science)

So: Knizhnaya letopis', No. 27, 1956. Moscow. Pages 94-109; 111.

EXCERPTA MEDICA Sec.12 Vol.12/2 Ophthalmology Feb. 58

REMIZOV, A.S.

204. THE METHOD OF DIRECT OPHTHALMOSCOPY OF PATIENTS WITH GLAUCOMA BY AN ELECTRIC OPHTHALMOSCOPE (Russian text). Remizov M. S. VESTN. OFTAL. 1956, 4 (44) - VOL - 69 -

In order to obtain greater co-incidence of the pencil of rays with the visual axis of the investigator, and thus to afford the advantage of a narrow pencil of rays in direct ophthalmoscopy with the electric ophthalmoscope, when the pupil is small, the pencil of rays has to traverse the uppermost part of the prism of the ophthalmoscope. The author used an ordinary bulb from a pocket torch with a lateral radial position of the filament. The head of the ophthalmoscope is turned so as to get the image of the lower part of the filament near to the upper edge of the prism. In this way one gets a narrow pencil of rays, directed at a very small angle in relation to the visual axis of the investigator. (S)

EXCERPTA MEDICA Sec 12 Vol 13/11 Ophthalmology Nov 59

1820. THE USE OF DIACARB IN PATIENTS WITH GLAUCOMA (Russian text) -  
Klayutin S. M. and Remizov M. S. - VESTN. OFTALM. 1958, 5 (28-32) Vol. 71  
Tables 3

The authors studied the action of the Soviet drug diacarb (analogous to diamox) on 55 patients with glaucoma. Decrease of intraocular tension was noted in 78.4% of cases after the administration of diacarb. The balance of nutrition of the retina improved by 37.2%. The angle of the anterior chamber was found to be considerably dilated in 44.8% of cases in 1-2 hr. after the administration of 0.25 g. of diacarb. In 26.4% of cases the increase of the size of the anterior chamber angle was found to be negligible. Examination of the size of the blind spot (L. Shakhov) in patients with glaucoma, as well as of permeability of the blood vessels (L. Levshina), demonstrated that diacarb possesses dehydrational properties. The conclusion was drawn that the effect of diacarb is based on the decrease of the production of the aqueous humour, as well as on improvement of its outflow and absorption. Taking into consideration the unfavourable effect of diacarb (and of diamox) on the metabolic processes in prolonged administration of the drug, it is recommended to prescribe this preparation mainly in hypersecretional glaucoma. In cases with closed angle of the anterior chamber diacarb may be used only as a temporary measure before the operation.

REYTMAN, L.; REMIZOV, N.

For the aid of the insurance worker ("Work organization in personal insurance" by I. Drozdov. Reviewed by L. Reytman, N. Remizov). Fin. SSSR. 22 no. 2:89-90 F '61. (MIRA 14:2)

Starshiy ekonomist Glavnogo upravleniya gosudarstvennogo strakhovaniya RSFSR (for Reytman). 2. Starshiy inspektor inspektsii po Leningradskomu rayonu Moskvyy (for Remizov).  
(Insurance)

19

CA REMIZOV, N. A.

Transparency of window glass. N. A. REMIZOV. *Keram. i Steklo* 7, No. 5, 3-6 (1961) — The degree of glass transparency for infra red rays depends on the length of the waves. The shortest infra-red rays with a wave length of 1.15 micron are the most harmful to vision. The transparency of glass depends on its thickness and on its compn., chiefly on its Ti oxide and Fe oxide contents. With the increase of the Fe<sub>2</sub>O<sub>3</sub> and TiO<sub>2</sub> contents in the glass, its transparency diminishes. M. V. K.

ASD-51A METALLURGICAL LITERATURE CLASSIFICATION

REMIZOV, N.A.

~~Professors N.D. Borisiak and I.F. Levakovskii as forerunners of~~  
the Russian Dokuchaev school of soil scientists. Uch. zap. ZhGU  
61:45-49 '55. (MLRA 10:3)

(Borisiak, Nikifor Dmitrievich, 1816-1882)

(Levakovskii, Ivan Fedorovich, 1823-1893)

(Soil formation)

REMIZOV, Nikolay Aleksandrovich

[Laboratory manual for physics; a textbook for students in  
medical schools] Praktikum po fizike; posobie dlia studentov  
meditsinskikh vuzov. Izd. 4., dop. i ispr. Moskva, Medgiz,  
1958. 183 p. (MIRA 13:6)  
(Physics--Laboratory manuals)

REMIZOV, N.P., prof.

"Chemistry of the soil" [in English]. Reviewed by N.P. Remizov.  
Pochvovedenie no.10:89-92 0 '58. (MIRA 11:10)  
(Soil chemistry)



REMIZOV, N.S., spets. red.; NOVOSPASSKIY, V.V., red.; GOLICHENKOVA,  
A.A., tekhn. red.

[Devices for the continuous removal of shavings and dust in  
machining brittle metals on lathes] Ustroistva dlia nepreryvnogo  
udaleniia struzhki i pyli pri tochenii khrupkikh materialov. Mo-  
skva, Izd-vo VTsSPS Profizdat, 1961. 56 p. (MIRA 14:9)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut okhrany  
truda.

(Turning--Safety measures)

ACC NR: AT6022759

SOURCE CODE: UR/2649/65/000/224/0095/0102

AUTHOR: Kudryavtsev, V. V.; Remizov, O. A.; Alekseyev, Yu. L.

ORG: None\*

TITLE: An experimental study of the temperature field of a melt during single crystal growing

SOURCE: \*Moscow. Institut inzhenerov zheleznodorozhnogo transporta. Trudy no. 224, 1965, Voprosy slozhnogo teploobmena (Problems of complex heat exchange), 95-102

TOPIC TAGS: single crystal growing, temperature measurement, crystallization, temperature gradient

ABSTRACT: The authors study the effect of the temperature field of a melt on the distribution of alloying admixtures in a crystal during single crystal growing by the Czochralski method. The temperature field of the melt is varied by using heating units with various shapes, changing the location of the crucible with respect to the heating unit and varying the parameters of pulling. The following pulling parameters were used throughout this study: seed crystal rotation 20, 30 and 60 rpm; crucible rotation 0, 2, 5, 10 and 20 rpm; rate of seed crystal raising 1, 2 and 3 mm/min. The crystals were pulled in an argon atmosphere with a residual pressure of 0.4 gauge atmosphere. Chromel-alumel thermocouples were used for measuring the temperature field of the melt.

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ACC NR: AT6022759

Temperature measurements were taken in several of the horizontal cross sections of the melt with a depth interval of 3-5 mm and under the crystallization front. Standard heating units were used as well as a series of experimental ones developed at the MIT Laboratory. The standard crucible charges were 2500 and 3500 g. The single crystals pulled usually were 200-240 mm long and 30 mm in diameter. An analysis of the temperature fields of the melt shows that the axial component of the temperature gradient in the melt region under the crystal decreases as the rate of pulling is increased. Three types of heating units were studied: radial heating, bottom-radial heating and bottom heating. The results show that the procedures worked out for measuring the temperature field in a melt may be used to measure the temperature in any part of the melt during crystal pulling. It is also shown that the shape of the heater, its location with respect to the crucible, and pulling parameters have a significant effect on ingot size. Controlling the rate of rotation of the seed crystal and crucible is an effective means for improving the quality of single crystals. The rate of seed crystal rotation has a significant effect on the distribution of alloying admixtures between the liquid and solid phases. Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 004

Card 2/2

REMIZOV, O.V.; SAFANETVICH, A.P.

Circuit for the fixation of local temperature increase of a  
wall. Izv. tekhn. no. 5:24 My'64 (MIRA 17:27)

ALEKSEYEV, G.V., ing., REMIZOV, O.V., ing., SERGEYEV, N.D., ing.  
ZENKEVICH, B.A., kand. tekhn. nauk, FESKOV, O.L., kand. tekhn.  
nauk, SUBBOTIN, V.I., doktor tekhn. nauk

Critical heat flows in a forced water current. Teploenergetika  
12 no.3:47-51 Mr '65. (MIRA 18:6)

ACCESSION NR: AP4041343

S/0115/64/000/005/0024/0024

AUTHOR: Remizov, O. V.; Sapankevich, A. P.

TITLE: Scheme for detecting a hot spot in a wall

SOURCE: Izmeritel'naya tekhnika, no. 5, 1964, 24

TOPIC TAGS: hot spot, hot spot detector, film type boiling

ABSTRACT: The scheme depends on the variation of electric resistivity with temperature. A metal "specimen" introduced into a column of boiling water (and also used as an electric heater) will have a higher temperature at the top. A bridge circuit is connected to point 2 (see Enclosure 1) through a special high-pressure bushing (design sketch supplied); the bridge unbalance voltage is made to automatically turn off the power heating the water. Such a scheme may protect the heat-producing surface from formation of a hot spot when the boiling reaches its critical point and changes into a vapor-film type. Orig. art. has: 2 figures and 1 formula.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: EC, IE

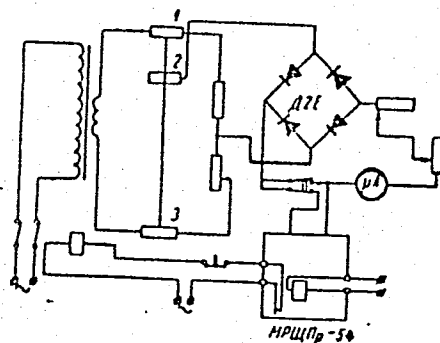
NO REF SOV: 000

OTHER: 000

Card 1/2

ACCESSION NR: AP4041343

ENCLOSURE: 01



A scheme for detecting hot spot on a heat-producing surface

Card 2/2

L 14280-63

Pu-4 WW

ACCESSION NR: AP3004749

EPR/EPF(c)/EWT(1)/EPF(n)-2/BDS

AFFTC/ASD/SSD

Ps-4/Pr-4/

S/0170/63/006/008/0112/0115

AUTHOR: Zenkevich, B. A.; Remizov, O. V.

TITLE: Critical heat loads in outer flow of subcooled water over a tube in a square duct at small flow velocities

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 8, 1963, 112-115

TOPIC TAGS: critical heat flux, reactor fuel element, power reactor, square duct, water, water-cooled reactor, water-moderated reactor

ABSTRACT: To provide critical heat flux data required for designing new fuel elements in water-moderated water-cooled power reactors, a study was made in a closed-loop test section consisting of an electrically heated stainless steel tube (diameter, 12 mm; length 200 mm) mounted in the center of a square duct (16.6 x 16.6 mm). Water was circulated through the duct at a pressure of  $(29.4-147) \times 10^5$  newton/m<sup>2</sup>, flow velocities of 0.1-3 m/sec, and subcooling temperatures of 2-50C. Critical heat fluxes obtained by gradually increasing the power input to the heater were recorded by two chromel-alumel thermocouples. On the basis of the data obtained in the pressure range of  $(58.5-147) \times 10^5$  newton/m<sup>2</sup>, the following empirical formula is proposed for calculating the

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L 14280-63

ACCESSION NR: AP3004749

critical heat load:

$$q_{cr} = 1.5 \times 10^6 W^{0.2} (\gamma' / \gamma'')^{0.4} (1 + K_2),$$

where W is flow velocity;  $\gamma'$ ,  $\gamma''$ , the specific weight of water and steam, respectively; and  $K_2 = (i' - i_1) / r$  ( $i'$  and  $i_1$  are heat capacity at saturation temperature and in the flow, respectively, and r is heat of vaporization). Values of  $q_{cr}$  obtained earlier for a round tube and a 2-mm annular slot at flow velocities smaller than 1.5 m/sec differ considerably from values obtained in the square duct; at 1.5-3 m/sec,  $q_{cr}$  was practically identical in all three arrangements. Orig. art. has: 2 formulas and 3 figures.

ASSOCIATION: Fiziko-energeticheskii institut, Obninsk (Physical Power Engineering Institute)

SUBMITTED: 10Sep62

DATE ACQ: 27Aug63

ENCL: 00

SUB CODE: NS

NO REF SOV: 006

OTHER: 001

Card 2/2

L 65197-65 EWT(l)/EWP(m)/EWA(d)/FCS(k)/EWA(l)

ACCESSION NR: AP5006297

S/0096/65/000/003/0047/0051

621.1.016.4

AUTHOR: Alekseyev, G. V. (Engineer); Remizov, O. V. (Engineer); Sergeyev, N. D. (Engineer); Zenkevich, B. A. (Candidate of technical sciences); Peskov, O. L. (Candidate of technical sciences); Subbotin, V. I. (Doctor of technical sciences)

TITLE: Critical heat fluxes during forced flow of water

SOURCE: Teploenergetika, no. 3, 1965, 47-51

TOPIC TAGS: fluid flow, forced flow, flow analysis, external flow, internal flow

ABSTRACT: The authors examine experimental data on the boiling crisis during forced flow of underheated water and of a water-steam mixture in tubes. These data are compared with those on external flow around an isolated tube in a symmetric annular space, flow around a tube located along the axis of a square channel, and external longitudinal flow over bundles of tubes. Some of the data given in this paper are from previously published works by these authors. The results are given in a series of graphs. It is found that  $q_{cr}$  is inversely related to pressure for water flow within the tubes. The dependence on pressure is reduced when the mass velocity of

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L 65197-65  
ACCESSION NR: AP5006297

the water flow is increased. For flow within tubes,  $q_{cr}$  is inversely related to the enthalpy of the water in the crisis zone, the effect of enthalpy increasing with the rate of flow of the water. The complex relationship between  $q_{cr}$  and various combinations of parameters is discussed for external longitudinal flow. There is a theoretical difference between the cases of internal and external cooling with respect to the effect of flow parameters and secondary factors on  $q_{cr}$  in external flow. Care should be taken when generalizing experimental data not to depend on extrapolation into regions where there is no reliable empirical basis for this procedure, since experience has shown that  $q_{cr}$  is sometimes a complex function of the flow parameters and various secondary factors. Orig, art. has: 8 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: ME

NO REF SOV: 012

OTHER: 002

*M.R.*  
Card 2/2

S/862/62/002/000/010/029  
A059/A126

AUTHORS: Zenkevich, B.A., Remizov, O.V., Subbotin, V.I., (Moscow)

TITLE: Influence of the channel geometry on critical thermal stresses in forced water flow

SOURCE: Teplo- i massoperenos. t. 2: Teplo- i massoperenos pri fazovykh i khimicheskikh prevrashcheniyakh. Ed. by A.V. Lykov and B.M. Smol'skiy. Minsk, Izd-vo AN BSSR, 1962. 106 - 111

TEXT: The behavior of corners formed by two adjacent ribs or a rib and the body of a fuel element in nuclear power reactors has been studied under the conditions of critical boiling. The determination of  $q_{cr}$  was attempted a) in a tubular channel with an effective diameter of the shape of an isosceles triangle the sides at the top of which are conjugated by the total radius; a rounded-off plate has been welded to the corner-forming plates, and b) in a rectilinear channel with rounded-off corners. In both cases, the heated length was 200 mm, and  $1/d_{equ}$  was about 42 in the former and about 24 in the latter case. Critical boiling occurred always at the top where water left the working section, and, in

Card 1/2

S/862/62/002/000/010/029

Influence of the channel geometry on critical thermal.. A059/A126

any case, at the corner. A Chromel-Alumel thermocouple has been used to establish the onset of critical boiling which worked in combination with a fast-electron potentiometer and has been welded to the outer triangular tubing at the corner ( $15^\circ$ ) or at one of the corners of the rectilinear tubing 4 to 5 mm below the upper feed line of flow. Experiments were performed on the critical thermal stresses at pressures between 60 and 170 at for the triangular and between 60 and 150 for the rectilinear tube. The velocity of water flow in both channels was about 1 to 6 m/sec, and underheating  $\Delta t_s \approx 2 - 50^\circ\text{C}$ . Experiments on the rectilinear channel were carried out at values of the conjugate radius  $R$  of 0.5 and 1.0 mm. No differences in  $q_{cr}$  were found in the investigated range of parameters. From the data on the critical thermal stresses in circular tubes a considerable difference in  $q_{cr}$  is established for the tubes compared at 60 at which decreases with increasing pressure, but increases with increasing velocity of water flow. Thermal stress decreases considerably in the presence of corners ( $15$  and  $90^\circ$ ) with radii of curvature of 0.5 to 1.00 mm at the corner of the fuel-element surface; the influence of the corners on  $q_{cr}$  depends on the water flow. There are 1 figure and 2 tables.

Card 2/2

ZENKEVICH, B.A.; REMIZOV, O.V.

Critical heat loads in a slow flow of underheated water past a tube  
in a square channel. Inzh.-fiz. zhur. 6 no.8:112-115 Ag '63.  
(MIRA 16:10)

1. Fiziko-energeticheskiy institut, Obninsk.

REMIZOV, O. V., SUBBOTIN, V. L., and ZENKEVICH, B. A.

"On the Effect of a Duct Geometry on Critical Heat Loads  
at the Forced Motion of Water."

Report submitted for the Conference on Heat and Mass Transfer,  
Minsk, BSSR, June 1961.

REMIZOV, P., inzh.-tekhnolog

Thermostatically controlled chest for sour milk and kafil.

Obshchestv. pit. no. 8:34-35 Ag '58.

(MIRA 11:8)

(Milk, Fermented)

(Dairy industry--Equipment and supplies)



REMIZOV, P., inzh.-tekhnolog molochnoy promyshlennosti; GLUSHNEVA, Z.;  
GASPAR'YAN, P.

New products. Obshchestv.pit. no.3:22-23 Mr '59.

(MIRA 12:4)

(Milk, Acidophilus) (Cookery (Eggplant))

REMIZOV, P.I.

Safeguarding labor and safety engineering in field operations.  
Geod. i kart. no.4:3-6 Ap '63. (MIRA 16:6)

(Surveying--Safety measures)

REMIZOV, S.A.

Influence of fertilizers on the yield and brewing quality of  
barley grown in the non-Chernozem zone of the European  
U.S.S.R. Trudy VNIIPP no.5: 132-137 '55. (MLRA 9:1)

(Barley) (Fertilizers and manures)

VUKALOVICH, M.P.; KIRILLIN, V.A.; REMIZOV, S.A.; SILETSKIY, V.S.; TIMOFEEV, V.N.

[Thermodynamic properties of gases] Termodinamicheskie svoystva gazov.  
Moskva, Gos.nauchno-tekhn.isd-vo mashinostroit.i sudostroit lit-ry, 1953.  
373 p. (MLRA 7:6)  
(Gases)

VUKAIOVICH, M.P., doktor tekhn.nauk; DZAMPOV, B.V., kand.tekhn.  
nauk; RASSKAZOV, D.S., kand.tekhn.nauk; REMIZOV, S.A. inzh.

Thermal properties of water under pressures up to 1200  
kg/cm<sup>2</sup> and at temperatures up to 300°C. Teploenergetika  
7 no.7:4-12 JI '60. (MIRA 13:7)

1. Moskovskiy energeticheskiy institut.  
(Water--Thermal properties)

VUKALOVICH, K.P., doktor tekhn.nauk; DZAMFOV, B.V., kand.tekhn.nauk;  
RASSKAZOV, D.S., kand.tekhn.nauk; REMIZOV, S.A., inzh.

Tables of  $C_p$  heat capacity of water and water vapor. Teploenergetika  
8 no.12:70-77 D '61. (MIRA 14:12)

1. Moskovskiy energeticheskiy institut.  
(Heat--Tables)

REMIZOV, S.A.

Use of superphosphate pellets for brewer's barley. Trudy VNIIP  
no.5: 138-145 '55. (MLRA 9:1)

(Barley) (Phosphates)

LEBEDYANTSEV, Aleksandr Nikandrovich, prof., doktor biolog.nauk, zaslu-  
zhennyy deyatel' nauki i tekhniki [1878-1941]; ASKINAZI, D.L.;  
ZHURBITSKIY, Z.I.; REMIZOV, S.A.; SAMOYLOVA, A.Ya.;  
LEBEDYANTSEVA, O.N., red.; DOLGOPOLOV, M.I., red.; BALLOD, A.I.,  
tekhn.red.

[Selected works] Izbrannye trudy. Moskva, Gos.izd-vo sel'khoz.  
lit-ry, 1960. 567 p. (MIRA 14:1)  
(Fertilizers and manures)



ANDRIANOVA, Tamara Nikolayevna; DZAMPOV, Boris Vasil'yevich;  
ZUBAREV, Vladimir Nikolayevich; REMIZOV, Serafim  
Aleksandrovich; VUKALOVICH, M.P., prof., red.;  
SINEL'NIKOVA, L.N., red.; BUL'DYAYEV, N.A., tekhn. red.

[Problems in industrial thermodynamics] Sbornik zadach po  
tekhnicheskoi termodinamike. [By] T.N.Andrianova i dr.  
Moskva, Izd-vo "Energia," 1964. 199 p. (MIRA 17:3)

REMIZOV, V., slesar'

Equipment for restoring circular saw blades. Na stroi. Mosk. 1 no.12:  
26 D '58. (MIRA 11:12)

1. Stroitel'nyy uchastok-21 tresta Mosstroy No.4.  
(Circular saws--Maintenance and repair)

Amfiteatrov, V.A., 1st. veterinarneyshiy nauch; Pshchinskii, V.I.; Shelaushskiy, V.A.;  
Amfiteatrov, V.A.

Using dry virus vaccine made by the State Scientific Control  
Institute for Veterinary Preparations against foot-and-mouth  
disease. Veterinariia 40 no.8:15-16 Ag 1963.

(MIRA 17:10)

1. Kuzanskiy veterinarnyy institut (for Amfiteatrov). 2. Starshiy  
veterinarnyy vrach Veterinarnogo otdela Ministerstva proizvodstva  
i zagotovok sel'skokhozyaystvennykh produktov Tatarskoy ASSR (for  
Shelaushskiy). 3. Direktor veterinarnoy laboratorii Veterinarnogo  
otdela Ministerstva proizvodstva i zagotovok sel'skokhozyaystvennykh  
produktov Tatarskoy ASSR (for Abuzayev).

ACCESSION NR: AR4036318

S/0081/64/000/004/P020/P021

SOURCE: Referativny\*y zhurnal. Khimiya, Abs. 4P163

AUTHOR: Romankova, I. K.; Remizov, V. G.; Maydebor, L. K.; Golovenko, A. M.

TITLE: Investigation of a powdered cracking catalyst made from askangel

CITED SOURCE: Tr. Groznensk. neft. n.-i. in-t, vy\*p. 12, 1963, 94-105

TOPIC TAGS: catalytic cracking, cracking, cracking catalyst, askangel, petroleum, petroleum distillate, benzene, coke, octane rating

TRANSLATION: The physical properties, chemical composition, initial index of activity and stability of a natural powdered cracking catalyst made from askangel, as well as the change in properties of this catalyst, were investigated during experiments carried out in an experimental installation at the GrozNII using a sectional reactor with a capacity of 5-7.5 kg of raw material per hour (a flow chart is presented). The main raw material used was a low-ash, wide fraction of contact coking pitch from the destructive distillation of sulfurous petroleum tar. The change in the cracking activity of the catalyst during the experimental process was periodically checked on the heavy distillate from the destructive

Card

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ACCESSION NR: AR4036318

distillation of sulfurous petroleum masut. It was shown that the stable index of activity of the catalyst equalled 20 points. The catalyst made of askangel has greater selectivity than the catalyst made of askanglin; thus, the ratio of benzene to coke is 4.5:1 against 3.1:1 for the askanglin catalyst. With practically the same yield of benzene (26-27%), less coke (5.8 and 8.7%, respectively) and gas (6.21 and 8.54%) were formed on the askangel catalyst. The octane rating for benzines obtained during cracking of the distillate from the destructive distillation of sulfurous petroleum residue fluctuated between 78 and 80 in both cases, while the cetane rating of the diesel fractions was 30-31.  
B. Englin

DATE ACQ: 10Apr64

SUB CODE: *FP*

ENCL: 00

Card

2/2

REMIZOV, V.G.

Peptization of aluminosilicate gels in water glass solutions.  
Izv. vys. ucheb. zav.; neft' i gaz no.4:85-93 '58. (MIRA 11:9)

1. Groznenskiy neftyanoy institut.  
(Aluminosilicates) (Colloids) (Soluble glass)

BRESHCHENKO, Ye.M.; REMIZOV, V.G.

Mechanical strength of aluminum-chromium-potassium catalysts.  
Trudy GrozNII no. 15:187-194 '63. (MIRA 17:5)

REMIZOV, V.G.

Peptization of aluminosilicate gels in water glass. Izv. vys.  
ucheb. zav.; neft' i gaz 3 no.5:75-82 '60. (MIRA 15:6)

1. Groznenskiy neftyanoy institut.  
(Aluminosilicates) (Colloids)



S/152/60/000/008/005/007/XX  
B004/B064

AUTHOR: Remizov, V. G.

TITLE: The Peptization of Aluminosilicate Gel in Water Glass. Effect of the Quality of Aluminosilicate Gel Upon Its Peptization in Water Glass

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, 1960, 3-  
No. 8, pp. 73 - 78

TEXT: This paper discusses a study of the interaction between water glass and aluminosilicate gel of different age and precipitated at different pH. The method of investigation has been previously described (Ref.1). 2 N water glass (N referred to NaOH) was used for peptization. It was carried out at 20°C. Samples were centrifuged and chemically and nephelometrically investigated. The rate constant of peptization K decreased with the age  $\theta$  of the gel (2 h to 10 d). For gels older than 10 h, the linear dependence  $t_{0.5} = A \log \theta + B$  ( $t_{0.5}$  = time of dissolution of 50% of the gel,  $A, B$  = constants) was established. The sesquioxide content of the sol

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The Peptization of Aluminosilicate Gel in Water S/152/60/000/008/005/007/XX  
Glass. Effect of the Quality of Aluminosilicate B004/B064  
Gel Upon Its Peptization in Water Glass

decreased linearly with  $\theta$ . The formation of the gel is discussed, its contraction explained by the formation of more solid bonds with  $Al(OH)_3$  being adsorbed predominantly at the surface, and in contraction separated under the formation of insoluble sodium aluminosilicates. The nephelometric investigation showed a direct proportionality between the optical density and the age of the gel. A variation of the pH, at which the gel was precipitated, between 7 and 10 resulted in a minimum of the peptization rate K at pH = 9.15. This is explained by the fact that at pH > 9, the gel is less stable due to partial dissolution in the alkaline medium, at pH < 9, however, the polymerization process is delayed, and the strength also reduced. There are 3 figures, 2 tables, and 11 references: 8 Soviet, 2 US, and 1 German.

ASSOCIATION: Groznenskiy nefityanoy institut (Groznyy Petroleum Institute)

SUBMITTED: January 19, 1960

Card 2/2

REMIZOV, V. G.

Cand Chem Sci - (diss) "Peptization of aluminosilicon gel in liquid glass." Groznyy, 1961. 14 pp; (Ministry of Higher and Secondary Specialist Education USSR, Azerbaydzhan State Univ imeni S. M. Kirov); 150 copies; price not given; (KL, 10-61 sup, 208)

REMIZOV, V.I.

New light reflector. Nov. mod. tekhn. no. 2:80-84 '64.  
(MIRA 18:11)

GORELOVA, Gertruda Isaakovna; REMIZOV, Viktor Ivanovich; UKHIN, Pavel Nikolayevich; FOMIN, A.A., red.; REZNIK, A.A., tekhn. red.

[Principles of radio engineering and radio-television systems] Osnovy radiotekhniki i kinoradioustanovki. Moskva, Izd-vo "Iskusstvo," 1963. 294 p. (MIRA 16:11)  
(Radio) (Television)

REMIZOV, V. L.

H-24

CHINA/Chemical Technology, Chemical Products and Their  
Application, Part 3. - Wood Pulp Industry, Hydro-  
lysis Industry.

Abs Jour: Referat. Zhurnal Khimiya, No 10, 1958, 33970.

Inst : Not given

Author : V.L. Remizov.

Title : Preparation of Methanol of High Purity Degree from  
Wood Alcohol.

Orig Pub: Khuasylue shitsze, 1955, No 9, 447.

Abstract: Translation. See RZhKhim, 1956, 30858.

Card : 1/1

33

USSR

L 20111-63 EWF(q)/EWT(m)/BDS AFPTC JD/MLK(a)  
S/0286/63/000/007/0020/0020

ACCESSION NR: AP3006731

AUTHOR: Remizov, V. Ye.; Ravin, M. M.

TITLE: A method of welding high-strength steel structures. Author's certificate  
NR 153761 classH05b; 21h, 30 sub 10

SOURCE: Byul. izobret. i tovarn. znakov, no. 7, 1963, 20

TOPIC TAGS: high-strength steel welding, welding

ABSTRACT: A method of welding high-strength steel structures, characterized by  
prior or subsequent build-up of edges of the seam to improve the strength of the  
welded connections and to reduce the labor consumption of the process. Orig. art.  
has: no graphics.

ASSOCIATION: none

SUBMITTED: 16Mar62

DATE ACQ: 30Sep63

ENCL: 00

SUB CODE: ML

NO REF SOV: 000

OTHER: 000

Card 1/1

REMI ZOV, V.Ye. (Moskva); RAVIN, M.M. (Moskva)

Welding cromansil steel tanks and pressure vessels with a  
nonconsumable electrode and a double gas shield. Avtom. svar.  
16 no.9:72-74 S '63. (MIRA 16:10)



S/125/62/000/009/006/008  
A006/A101

AUTHORS: Remizov, V. Ye., Ravin, M. M. (Moscow)

TITLE: Dismountable backing rings for one-sided automatic welding of containers

PERIODICAL: Avtomaticheskaya svarka, no. 9; 1962, 77 - 78

TEXT: The following types of dismountable backing rings are enumerated:  
1) Rings which can be folded with the aid of hinges to facilitate their removal; they are recommended to be used in case the weld is located near the shell butt; if the ring is to be removed from the shell through an aperture whose diameter is smaller than the shell diameter, and for welding shells up to 300 mm in diameter;  
2) Rings with a separate unclamping device. Several clamps on the ring circumference assure the tight abutting of the ring in shells over 300 mm in diameter;  
3) For welding seams which are remote from the shell butt by more than 0.5 - 0.8 mm, a ring has been developed (Figure 4) with radially arranged pins 2, pressed with the aid of springs 3 against cone 4. During rotation of a screw the cone unclamps the pins and sections 5. The screw moves with the aid of an extended

Card 1/3

S/125/62/000/009/006/008  
A006/A101

Dismountable backing rings for...

butt key 6. The described rings assure convenient assembly, mutual centering of the shells, absence of burns, and satisfactory formation of the reverse weld. They have been successfully used for several years at a machinebuilding plant. There are 4 figures.

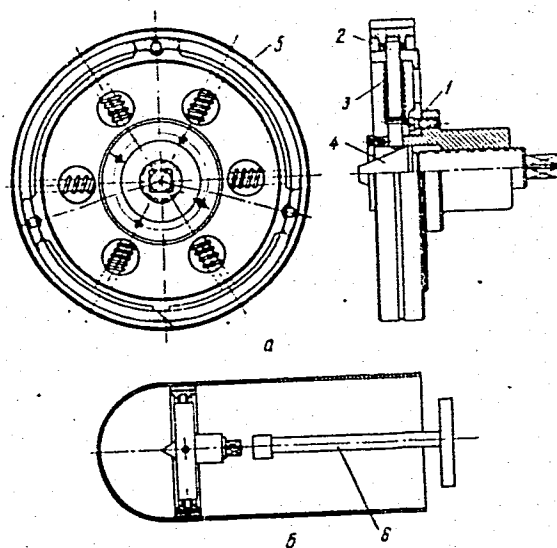
SUBMITTED: April 23, 1962

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Dismountable backing rings for...

Figure 4. Backing ring for welding seams which are remote from the shell butt

S/125/52/000/009/706/008  
A006/A101



Card 3/3

YUKHNOVICH, A.N., veter. vrach (Yel'ninskiy rayon, Smolenskoj oblasti);  
 RUDOMETKIN, Ya.S., veter. vrach; EVENTOV, M.Z., veter. vrach;  
 SOBOLEV, A.S., dotsent (Estonskaya SSR); DOL'NIKOV, Yu.Ya., kand.  
 veter. nauk; PALIMPSESTOV, M.A., prof.; SIMONENKO, N.M., dotsent;  
 GONCHAROV, A.P., assistant; BEZRUKOV, A.A.; FROLENKOV, N.A., veter.  
 vrach (Serov, Sverdlovskoj oblasti); KOSHCHHEYEV, P.M.; VOROB'YEV,  
 M.M., kand. veter. nauk; YANCHENKO, P.Kh., veter. vrach;  
 AMELIN, I.P.; BYCHKOV, A.I., kand. veter. nauk; SHVYREV, G.I.,  
 veter. vrach (Stavropol'skiy kray); DANILIN, N.F.; TRUSHIN, A.Z.,  
 veter. vrach; SKRYPNIKOVA, T.K., veter. fel'dsher; MIKHEYEV, A.D.;  
 KARMANOVA, Ye.M., kand. biol. nauk; REMIZOV, Ye.S., mladshiy  
 nauchnyy sotrudnik; ANTIPIN, D.N., referent

From helminthological practice. Veterinariia 38 no.7:55-58  
 JI '61. (MIRA 16:8)

1. Reshetovskiy veterinarnyy uchastok, Novosibirskoy oblasti (for Rudometkin).
2. Sovkhoz "Buda-Koshelevskiy" Gomel'skoy oblasti (for Eventov).
3. Sibirskiy nauchno-issledovatel'skiy veterinarnyy institut (for Dol'nikov).
4. Khar'kovskiy veterinarnyy institut (for Palimpsestov, Simonenko, Goncharov).
5. Blagoveshchenskiy sel'skokhozyaystvennyy institut (for Bezrukov).
6. Novo-Nikolayevskiy veterinarnyy uchastok Krasnodarskogo kraya (for Lochkarev).
7. Karpilovskiy veterinarnyy uchastok Chernigovskoy oblasti (for Ponomarenko).
8. Kamalinskiy veterinarnyy uchastok Krasnoyarskogo kraya (for Koshcheyev).

(Continued on next card)

YUKHNOVICH, A.N.—(continued) Card 2.

9. Novgorod-Severskaya mezhrayonnaya veterinarnaya laboratoriya, Poltavskoy oblasti (for Vorob'yev).
10. Braginskaya rayonnaya veterinarnaya lechebnitsa, Gomel'skoy oblasti (for Yanchenko).
11. Nachal'nik veterinarnogo otdela Chelyabinskogo oblastnogo sel'skokhozyaystvennogo upravleniya (for Amelin).
12. Chelyabinskaya oblastnaya veterinarnaya laboratoriya (for Bychkov).
13. Kaliningradskaya nauchno-issledovatel'skaya veterinarnaya stantsiya (for Danilin).
14. Sovkhoz "Rodina" Kikvidzenskogo rayona, Stalingradskoy oblasti (for Trushin, Skrypnikova).
15. Zaveduyushchiy Kirovo-Chepetskoy myaso-molochnoy i pishchevoy kontrol'noy stantsiyey, Kirovskoy oblasti (for Mikhayev).
16. Gel'mintologicheskaya laboratoriya AN SSSR (for Karmanova).
17. Zapadno-Kazakhstanskaya nauchno-issledovatel'skaya veterinarnaya stantsiya (for Remizov).

(Veterinary helminthology)

REMIZOV, Ye.S., veterinarnyy vrach (Ural'sk, Zapadno-Kazakhstanskaya oblast')

Use of phenothiazine in Haemonchus infection of pregnant sheep.  
Veterinariia 39 no.11:39 N '62. (MIRA 16:10)

MARGULIS, Ye.V.; RFMIZOV, Yu.S.

Thermal dissociation and hydrolysis of mercury (II) sulfate.  
Zhur. neorg. khim. 8 no.10:2290-2294 0 '63. (MIRA 16:10)

(Mercury sulfates) (Thermochemistry) (Hydrolysis)

MARGULIS, Ye.V.; REMIZOV, Yu.S.; KOPYLOV, N.I.

Solid phase interaction between oxides and sulfates of zinc,  
cadmium, and copper. Zhur. neorg. khim. 8 no.8:1862-1868  
Ag '63. (MIRA 16:8)

(Metallic oxides) (Sulfates)



MARGULIS, Ye.; REMIZOV, Yu.S.

Chemical phase analysis of copper compounds. Zav.lab. 28 no.5:  
533-537 '62. (MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy  
institut tsvetnykh metallov.

(Copper compounds)

GETSKIN, L.S.; MARGULIS, Ya.V.; REMIZOV, Yu.S.

Interaction of sulfur dioxide with gaseous and solid selenium  
oxide. Zhur.prikl.khim. 35 no.6:1192-1198 Je '62. (MIRA 15:7)  
(Sulfur dioxide) (Selenium oxide)

24h29

S/080/61/034/007/003/016  
D223/D305

18 3100

AUTHORS: Getskin, L.S., Remizov, Yu.S., and Margulis, Ye.V.

TITLE: The behavior of lead selenide on oxidation and hot sulphation with sulphuric acid

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 7, 1961, 1430 - 1437

TEXT: The principal form of the selenium compound in the products resulting from the metallurgical processing of ores is lead selenide. The initial materials for preparing lead selenide were finely dispersed powder of metallic selenium type S-0 and technically pure lead. The stoichiometric quantities of each were mixed in the ratio of the lead selenide  $PbSe$ . The chemical analysis gave 72.02% of lead and 27.50 % of selenium which is close to theoretical values for  $PbSe$  ( $Pb = 72.4 \%$ ,  $Se = 27.6 \%$ ). X-ray analysis by the Debye-Scherer method revealed the corresponding crystalline structure (cubical lattice with  $a = 6.11 \text{ \AA}$ ) and no other phase was de-

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S/080/61/034/007/003/016  
D223/D305

The behavior of lead ...

tested. The thermal analysis gave the melting point as  $1065^{\circ}\text{C}$ . On the basis of the above analysis the material was found suitable for experimental work. Oxidation roasting was done in a porcelain boat in a tubular furnace through which air passed at the rate of 50 mls/min. The furnace temperature was controlled by an electronic potentiometer with an accuracy of  $\pm 5^{\circ}\text{C}$ . The sulphation roasting was done under the same conditions as oxidation but with the addition of sulphuric acid. The charge per experiment was 2 g and the roasting time 30 min. During the roasting of lead selenide in air and over a temperature interval  $300-600^{\circ}\text{C}$ , a gradual increase in weight was observed, but no selenium was detected in the gas phase. In comparison with Ag and Cu selenides, lead selenide yields a much lower ratio of Se in the gas phase; roasting of PbSe in a mobile layer, where sintering of material would not happen, results in a higher volatilization of Se. The sulphation roasting using 98 %  $\text{H}_2\text{SO}_4$  was investigated to determine the chemical stages of the process, volatilization of Se from PbSe, the effect of acid excess and the roasting temperature. The interaction of silver and

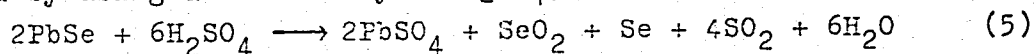
Card 2/5

24429

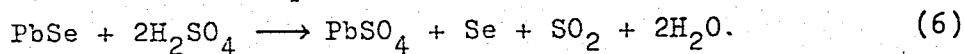
S/080/61/034/007/003/016  
D223/D305

The behavior of lead ...

copper selenides with concentrated  $H_2SO_4$  on heating followed two stages: a) the formation of selenium sulphite  $SeSO_3$  and b) the sulphuric acid oxidizes  $SeSO_3$  to  $SeO_2$  and  $SO_2$ . Reaction stages were confirmed by means of radioactive tracers using radioactive isotope  $Se-75$ . The authors note that the limiting stage of the process for distilling Se from  $PbSe$ , is not the formation of  $SeO_2$  but its volatilization. A complete removal of  $SeO_2$  into the gas phase requires the evaporation of the  $H_2SO_4$ , which involves an increase in temperature and time of roasting. The formation of  $SeSO_3$  can be avoided by using a deficiency of  $H_2SO_4$ , i.e.



and in this case the removal of selenium from  $PbSe$  is in the form of  $SeO_2$  and elementor Se. The deficiency of  $H_2SO_4$  could cause the following reaction to take place



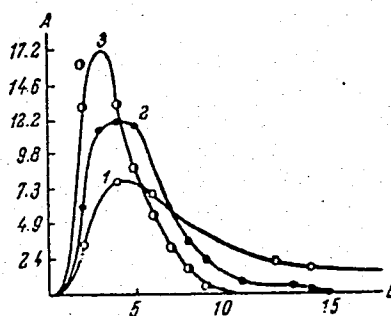
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The behavior of lead ...

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D223/D305

To clarify the situation, experiments were carried out at different temperatures and different stoichiometric concentrations of sulphuric acid, the results being given in tabulated form. The investigation into the rate of  $\text{SeO}_2$  formation from  $\text{PbSe}$  and  $\text{H}_2\text{SO}_4$  and for different time intervals and temperatures gave results interpolated in Fig. 3.

Fig. 3.  
Legend: A - rate of  $\text{SeO}_2$  formation (% per min); B - time (min); Temperature ( $^{\circ}\text{C}$ ): 1 - 300, 2 - 350, 3 - 400.



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The behavior of lead ...

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D223/D305

The maximum rate was found to obey

$$\ln V_{\max} = -2.29 - \frac{2999}{T} \quad (10)$$

and for the temperature range 300-400°C the plotted graph is a straight line. There are 3 tables, 4 figures, and 3 Soviet-bloc references. X

SUBMITTED: November 18, 1960

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REMIZOVA

"Brief Notes on the Activity of the Gor'kiy Scientific Society of Dermatologists and Venereologists," Vest. Venerol. i Dermatol., No. 4, 1948.



RE MI Z O V A , A A .

24(8)

PHASE 1 BOOK EXPLANATION

SOV/3809

Akademiya nauk SSSR, Otdeleniye khimicheskikh nauk

Termodinamika i stroeniye rastvorov: trudy sovetskaniya...  
(Thermodynamics and Structure of Solutions: Transactions of the  
Conference Held January 27-30, 1958) Moscow, Izd-vo AN SSSR,  
1959. 295 p. 3,000 copies printed.

Ed.: M. I. Shaparonov, Doctor of Chemical Sciences; Ed. of Publishing  
House: M. G. Yegorov; Tech. Ed.: T. V. Polyakova.

PURPOSE: This book is intended for physicists, chemists, and  
chemical engineers.

COVERAGE: This collection of papers was originally presented at the  
Conference on Thermodynamics and Structure of Solutions sponsored  
by the Section of Chemical Sciences of the Academy of Sciences,  
USSR, and the Department of Chemistry of Moscow State University,  
and held in Moscow on January 27-30, 1958. Officers of the  
conference are listed in the preface. A list of other reports  
also read at the conference, but not included in this book,  
are given. Among the problems treated in this work are:  
electrolytic solutions, ultrasonic measurement, dielectric  
and thermodynamic properties of various mixtures, spectro-  
scopic analysis, etc. References accompany individual articles.

Shaparonov, M. I. Present Problems of the Thermodynamic  
Theory of Solutions of Nonelectrolytes 36

Syrkov, V. P. Fluctuation of Energy in Solutions and Their  
Relation to Heat Capacity 43

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in Binary Liquid Systems 49

Radzvi, V. P. Study of the Critical States of Individual  
Compounds and of Their Mixtures With the Aid of Ultrasonic  
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Solutions to Their Composition 93

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Isaylov, M. A. Dissociation of Electrolytes in Nonequilibrium  
Solutions 105

Aleksandrov, V. V., and Ye. P. Ivanova. Thermodynamic Proper-  
ties of Nonequilibrium Solutions of Electrolytes 118

Isaylov, M. A., V. A. Krenner, L. M. Kuznetsov, and Ye. V. Titov.  
Study of the Effect of Solvents on the Strength of Acids by  
Means of Optical Methods 122

Nikol'skiy, B. E. Dissociation of Acids and Complex Compounds  
and Methods of Studying It 126

Yatsimirskiy, K. B. Change in Thermodynamic Functions in  
Reactions of Association of Ions in Solutions 133

Vasil'yev, V. P. Thermodynamics of "Aqueocomplexes" 140

Levinskii, A. D. Study of Partial Pressure of Solvent in  
Aqueous Solutions of Electrolytes 144

King, Stefan. Interactions of Proton With Molecules (Water,  
and Methyl, Ethyl and n-Propyl Alcohols) 152

REMIZOVA, A.A.

Effect of premelting kinetics on the anomaly of thermal properties. Izv.vys.ucheb.zav.; fiz. no.3:3-6 '63. (MIRA 16:12)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut imeni Lenina.

REMIZOVA, A. A.

BARTENEV, G.M.; REMIZOVA, A.A.

Phase transitions and their classification [with summary in English]. Zhur. fiz. khim. 31 no.11:2534-2546 N '57.  
(MIRA 11:3)

1. Moskovskiy pedagogicheskiy institut im. V.P. Potemkina.  
(Phase rule and equilibrium)

REMIZOVA, A. A.

76-11-24/35

AUTHORS: Bartenev, G.M., Remizova, A.A.

TITLE: Phase Transitions and Their Classification (Fazovyie perekhody i ikh klassifikatsiya)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 11, pp. 2534-2546 (USSR)

ABSTRACT: As a further development of existing conceptions of phases and phase transitions a classification of phase transitions is given here in consideration of the molecular processes of disordering and of the washing-out factors. It is shown that the  $\lambda$ -curves observed in the experiments are characteristic not only of phase transitions of the second type as was hitherto assumed, but also of phase transitions of the first type with disordering processes in the presence of washing-out factors. On the other hand, many phase-transitions are not characterized by  $\lambda$ -curves, which is connected with the influence exercised by the washing-out factors. In many cases the determination of the nature of the transformation and of the appearance of phase transitions only according to the curves of property modifications is difficult. For this purpose the investigation of processes of kinetics and the application of methods for structural investigation

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BARTENEV, G.M.; REMIZOVA, A.A.

Effect of impurities on the premelting stage. Ukr. fiz. zhur.  
7 no.8:892-898 S '62. (MIRA 16:1)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut.  
(Melting) (Naphthalene)

REMI ZOVA, A.A.; TAMARIN, A.A.

Instability of melting points due to small impurities. Uch. zap.  
Mosk. gor. ped. inst. 86:229-242 '60. (MIRA 16:3)  
(Melting points)

BARTENEV, G.M.; REMIZOVA, A.A.

Determination and classification of phase transitions in simple  
systems. Uch. zap. Mosk. gor. ped. inst. 86:157-183 '60.

(MIRA 16:3)

(Phase rule and equilibrium)

SOV/76-33-5-25/33

5(4)

AUTHOR:

Remizova, A. A. (Moscow)

TITLE:

On the Role Played by Impurities in Phase Transitions of the Type Melting and Crystallization (O roli primesey v fazovykh perekhodakh tipa plavleniya i kristallizatsii)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 5, pp 1126 - 1128 (USSR)

ABSTRACT:

Dickinson and Osborn (Ref 1) tried to explain the inaccuracy of the curves of the heat capacity near the melting point by the presence of impurities. They proceeded from the assumption that all impurities are present in the molten part of the sample. According to this assumption, the absence of impurities in the solid phase, however, renders promelting inexplicable. The following presupposition which ought to be the basis of a theory of promelting is explained: The atoms and molecules of the impurities are irregularly distributed in the system. The thermodynamic properties of a small volume chosen at random depend on the content of impurities. If the whole system is divided into equally small volumes

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On the Role Played by Impurities in Phase Transitions  
of the Type Melting and Crystallization

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the concentration of the impurities is characterized by a certain distribution factor. Since the transition temperature must be different in each of these volumes according to the content of impurities, the inaccurate course of the curves upon melting and crystallization can be seen. The extent of this inaccuracy depends on the size of the volume investigated. The following facts have to be taken into consideration: 1) the slight impurities are soluble in the solid phase and statistically irregularly distributed; 2) there is a statistical minimum volume in which the transition from one phase to the other is possible (melting quanta according to Ya. I. Frenkel' - Ref 2 - and G. M. Bartenev - Ref 3). All explanations refer to dissolved impurities. The character of crystallization can change only if the crystallizing substance contains crystalline impurities with crystal lattices the parameters of which are near those of the crystallizing substance. There are 3 references, 2 of which are Soviet.

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On the Role Played by Impurities in Phase Transitions  
of the Type Melting and Crystallization

SOV/76-53-5-25/33

ASSOCIATION: Moskovskiy pedagogicheskiy institut im. V. P. Potemkina  
(Moscow Pedagogical Institute imeni V. P. Potemkin)

SUBMITTED: November 5, 1957

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REMIZOVA, A.A.; TAMARIN, A.A.

Effect of impurities on the anomaly of thermal expansion close to the melting point. Izv. vys. ucheb. zav.; fiz. no.6:152-156 '60.  
(MIRA 14:3)

1. Moskovskiy pedinstitut im. V.P. Potemkina.  
(Expansion(Heat))  
(Crystals)

REMIZOVA, A. A. Cand Phys-Math Sci -- "Phase transitions and anomalous phenomena in the proximity of melting points." Mos, 1961 (Min of Education RSFSR. Moskovskaya Oblast Ped Inst im N. K. Krupskaya). (KL, 4-61, 184)

S/139/60/000/006/024/032  
E032/E414

AUTHORS Remizova, A. A. and Tamarin, A. A.

TITLE Effect of Impurities on the Anomalous Thermal Expansion in the Neighbourhood of the Melting Point

PERIODICAL Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, No. 6, pp. 152-156

NOTE Using Frenkel's theory (Ref. 1) of phase fluctuations, Bartenev (Ref. 2,3) has obtained an expression for the correction which has to be added to the volume expansion coefficient in order to account for phase fluctuations. This correction is given by

$$\beta_{an} = \frac{v_2 - v_1}{v_l} \frac{k}{\gamma^2} \frac{T_0^2}{(T_0 - T)^2} \quad (1)$$

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# Effect of Impurities on the Anomalous Thermal Expansion in the Neighbourhood of the Melting Point

where  $T_0$  is the transition temperature,  $\gamma$  is the latent heat of melting,  $v_1$  and  $v_2$  are the specific volumes of the solid and liquid phases and  $a$  is a constant representing the minimum statistical complex of particles capable of experiencing a phase transition. The physical basis of this phenomenon is that the second derivatives of the thermodynamic potential gradually tend to infinity as one approaches the melting point and the process begins a few degrees, and sometimes even tens of degrees, before the melting point is reached. This in turn is due to the fact that melting takes place not at a definite temperature but in a certain temperature interval. Owing to the gradual increase in the amount of liquid phase just before the melting point is reached, both the specific heat and the thermal expansion coefficient exhibit an anomalous behaviour in this region and must include additional terms of the above type (Eq. 1). If, moreover, the system includes small amounts of soluble impurities which are uniformly distributed through the

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# Effect of Impurities on the Anomalous Thermal Expansion in the Neighbourhood of the Melting Point

volume then these impurities may introduce a further small effect. When the impurities are distributed uniformly on the macroscopic scale while on the microscopic scale there is a statistical nonuniformity, the anomalous part of the thermal expansion coefficient can be calculated from the following expression obtained by Bartenev in Ref. 3

$$\alpha_{an} = \frac{v_2 - v_1}{v_1} \frac{e^{-a}}{T_0 - T_a} \frac{a^{x-1}}{x} \quad (2)$$

where  $T_0$  and  $T_a$  are the melting points of microvolumes free of impurities and containing  $a$  impurity molecules respectively,  $x$  is the number of impurity atoms in the microvolume, and  $a$  is the mean number of impurity atoms in card 5/11

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# Effect of Impurities on the Anomalous Thermal Expansion in the Neighbourhood of the Melting Point

microvolume. In order to calculate  $\delta_{an}$  from this formula one must have a knowledge of the microvolume which was called by Bartenov "a quantum of melting". The latter consists of  $10^3$  to  $10^4$  atoms. Another theory which is better known at the present time is that put forward by Dickinson and Osborne (Ref. 4) but the present authors consider that it is physically untenable. This theory was critically examined by the first of the present authors in Ref. 5. It is well-known that the characteristic feature of binary systems is the fact that liquidus and solidus lines on the equilibrium diagram are not the same. In the present case this means that there are different concentrations of the impurity in solid and liquid phases which are in equilibrium during the crystallization process. The ratio of the impurity concentrations in the solid and liquid phases is defined as the distribution coefficient  $k$  which can be either greater or smaller than unity. In the determination of the distribution of the impurity in a crystallized specimen, one may

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# Effect of Impurities on the Anomalous Thermal Expansion in the Neighbourhood of the Melting Point

introduce the simplifying assumption that the diffusion rate in the solid phase is negligible, while in the liquid phase it is very large, so that the impurities are distributed uniformly. It may then be assumed that when the crystallization rate is sufficiently small, a thin layer of the crystal in contact with the separation boundary is in fact in equilibrium with the whole liquid and the impurity concentration ratio in them is equal to  $k$ . On these assumptions it has been shown that the concentration  $c'$  of the solid layer crystallizing at a given moment is given by (Gulliver, Scheuer, Hayes, Chipman and McFee - Ref.6 to 9)

Eq.  
(4)

$$c' = c_0 K \left( 1 - \frac{m}{M} \right)^{K-1}, \quad (4)$$

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where  $c_0$  is the average impurity concentration,  $m$  is the amount of crystallized liquid and  $M$  is the mass of the specimen. When  $k < 1$ ,  $c'$  increases with the amount of the solid phase. Using Eq.(4), one can show that the amount of mass whose concentration lies between  $c'$  and  $c' + dc'$  is given by

Eq.  
(5)

$$\frac{dm}{dc'} = -M \frac{(c')^{\frac{2-k}{k-1}}}{k-1} \left( \frac{1}{c_0 k} \right)^{\frac{1}{k-1}} \quad (5)$$

Assuming that the solidus curve is linear, i.e.  $ac' = T - T_0$ , where  $a$  is a constant, one can show that  $dm/dT$ , which is:  
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Effect of Impurities on the Anomalous Thermal Expansion in the Neighbourhood of the Melting Point

required in the expression for the anomalous part of the expansion coefficient, is given by

Eq.  
(8)

$$\frac{dm}{dT} = M \frac{(a c_0 k)^{\frac{1}{1-k}}}{(1-k)(T-T_0)^{\frac{2-k}{1-k}}} \quad (8)$$

In the derivation of these expressions it is assumed that  $k$  is constant. It follows that  $c_0 k$  represents the concentration of the solid phase at the beginning of the crystallization process, and  $c_0 k a$  represents the depression of the beginning of the crystallization with the mean concentration equal to  $c_0$ , i.e.  $c_0 k a = T_c - T_0$ . In this case Eq.(8) may be

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Effect of Impurities on the Anomalous Thermal Expansion in the  
Neighbourhood of the Melting Point

replaced by

Eq.  
(8')

преобразится тогда в

$$\frac{dm}{dT} = M \frac{(T_c - T_0)^{\frac{1}{1-\kappa}}}{(1-\kappa)(T - T_0)^{\frac{2-\kappa}{1-\kappa}}} \quad (8')$$

Neglecting second order effects and assuming that the anomalous part of the volume expansion coefficient is due to a change in the volume of the melting part of the specimen owing to the difference between the specific volumes of liquid and solid phases, one finally finds that the anomalous part of the expansion coefficient is given by

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